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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/590,593	06/13/2007	Peter Daute	5007447.010US1	8566
29737	7590	11/12/2009		
SMITH MOORE LEATHERWOOD LLP			EXAMINER	
P.O. BOX 21927			WEISS, PAMELA HL	
GREENSBORO, NC 27420				
			ART UNIT	PAPER NUMBER
			1797	
			NOTIFICATION DATE	DELIVERY MODE
			11/12/2009	ELECTRONIC

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

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<b>Office Action Summary</b>	<b>Application No.</b> 10/590,593	<b>Applicant(s)</b> DAUTE, PETER	
	<b>Examiner</b> PAMELA WEISS	<b>Art Unit</b> 1797	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

#### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

#### Status

- 1) ☒ Responsive to communication(s) filed on 22 July 2009.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

#### Disposition of Claims

- 4) ☒ Claim(s) 1-20 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-20 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

#### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

#### Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All    b) ☐ Some \*    c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

#### Attachment(s)

- |   |   |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)   | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                                  | 5) <input type="checkbox"/> Notice of Informal Patent Application                       |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)<br>Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____  |

### **DETAILED ACTION**

1. Applicant's arguments filed 07/22/2009 have been fully considered but they are not persuasive. No amendments to the claims have been filed. The previous rejections are maintained and are restated below in order to more fully set forth the grounds of rejection.

#### ***Information Disclosure Statement***

2. The information disclosure statement filed 08/24/2006 fails to comply with 37 CFR 1.98(a)(3) because it does not include a concise explanation of the relevance, as it is presently understood by the individual designated in 37 CFR 1.56(c) most knowledgeable about the content of the information, of each patent listed that is not in the English language. It has been placed in the application file, but the information referred to therein has not been considered.

#### ***Claim Rejections - 35 USC § 103***

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

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1. Determining the scope and contents of the prior art.
  2. Ascertaining the differences between the prior art and the claims at issue.
  3. Resolving the level of ordinary skill in the pertinent art.
  4. Considering objective evidence present in the application indicating obviousness or nonobviousness.
5. Claims 1-6, 8, 14-18 and 20 are rejected under 35 U.S.C. 103(a) as being unpatentable over Worschech et al. (US 3,875,069) (referred to as '069) in view of Worschech et al. (4,637,887) (referred to as '887)

Regarding Claims 1-3:

Worschech et al. discloses a lubricant composition for thermoplastic processing comprising (Abstract):

a) at least one natural fat and oil ('069 C8 L35-45: cotton seed oil which will intrinsically possess an iodine number overlapping the claimed ranges) Worschech also discloses the natural oil may be hardened castor oil (C8 L43-47)

b) at least one lubricant different from the natural fat and/or oil of component (a). ('069 C3 L1-22 mixed esters)

Worschech discloses the saturation of the long chained monocarboxylic acids affect the physical consistency of the product at room temperature and discloses that a monocarboxylic acid component saturated aliphatic monocarboxylic acid is solid while unsaturated are oil liquids at room temperature. ('069 C6 L31-51).

Worschech et al. does not expressly disclose the iodine value below 10, or below 8, or between 0.1 and 5.

Worschech et al. '887 discloses a lubricant for a vinyl chloride polymer which contains triglycerides containing hydroxy fatty acid residues of natural fats and oils such

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as olive oil, linseed oil, palm oil, lard oil, herring oil, soybean oil, tallow and rapeseed oil and preferably their mixtures. ('887 C1 L65-C2 L2). Worschech et al. discloses the natural oils are selectively hydrogenated by first epoxidizing them and then hydrogenating them to open the epoxy rings. (C2 L4-22) Worschech et al. also discloses the use of a hydroxyl fatty acid residue formed from rapeseed oil as it has an iodine number less than or equal to 5. Worschech et al. discloses hydrogenated rapeseed oil, soybean oil and tallow all having iodine numbers less than or equal to 5 (C3 L65-C4 L12)

Worschech '887 discloses the availability of natural castor oil and hardened castor oil is subject to fluctuation and a substitute is needed (C1 L30-42). Worschech '887 compares the hydrogenated oils to hardened castor oil and shows they may substitute for natural castor oil or hardened castor oil (C4 L Worschech '887 discloses that its composition is suitable for thermoplastic molding. (C3 L45-47).

It would have been obvious to a person having ordinary skill in the art at the time of invention to use the rapeseed oil composition of Worschech et al. '887 having an iodine number of less than or equal to 5 in place of the natural or hardened castor oil of Worschech '069 as it is a suitable substitute for castor oil, is suitable for use in thermoplastic lubricants and is not in short supply.

Regarding Claims 4 and 5:

Modified Worschech '069 discloses the limitations set forth above which are incorporated herein.

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Modified Worschech '069 discloses the components (a) to (b) mixed esters are present in a ratio by weight of 1:3 to 9:1 (i.e. 10:30 to 90:10) thus overlapping the claimed ratio range of 20:80 to 80:20 and 40:60 to 60:40. (C3 L20-22) See MPEP 2144.05(I): "In the case where the claimed ranges "overlap or lie inside ranges disclosed by the prior art" a prima facie case of obviousness exists. In re Wertheim, 541 F.2d 257, 191 USPQ 90 (CCPA 1976);"

Regarding Claim 6.

Modified Worschech '069 discloses the limitations set forth above which are incorporated herein. Worschech also discloses the lubricant component (b) is selected from the group consisting of fatty acid esters of fatty alcohols, dicarboxylic acid esters of fatty alcohols and polyol fatty acid esters. (C3 L1-21) and (C6 L61-65)

Regarding Claim 8.

Modified Worschech '069 discloses the limitations set forth above which are incorporated herein. Worschech also discloses the lubricant composition wherein component (b) comprises distearyl phthalate. (C7 L49-50).

Regarding Claims 14-15:

Modified Worschech '069 discloses the limitations set forth above which are incorporated herein. Worschech also discloses the use of natural fats and oils with iodine values below 10 as lubricants with internal and external lubricant properties for thermoplastics, preferably for polar plastics. (Worschech '069 C2 L30-34 wherein the composition is used in the shaping of thermoplastic material and C9 L25-50 where it is

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incorporated into the thermoplastic material) and (Worschech '069 C2 L55-60 wherein the composition is incorporated in the thermoplastic material)

Regarding Claims 16, 17, 18 and 20

Rejections to claims 1, 4 and 6 are expressly incorporated herein.

Modified Worschech '069 discloses the limitations set forth above which are incorporated herein. Modified Worschech also discloses the method for processing thermoplastics comprising the steps of incorporating into a thermoplastic polymer a lubricant composition comprising: (a) at least one natural fats or oils with iodine values below 10 and at least one lubricant different from the natural fat and/or oil of component (a) ('069 C3 L1-22 mixed esters) and processing the thermoplastic polymer, preferably polar plastics. (Worschech '069 C2 L30-34 wherein the composition is used in the shaping of thermoplastic material and C9 L25-50 wherein the materials are added to the thermoplastic materials and then the plastic is shaped in any known manner) and (Worschech '069 C2 L55-60 wherein the composition is incorporated in the thermoplastic material).

6. Claim 9 is rejected under 35 U.S.C. 103(a) as being unpatentable over Worschech et al. (US 3,875,069) (referred to as '069) in view of Worschech et al. (4,637,887) (referred to as '887 as applied to claim 1 above, and further in view of Haack et al. (US 5,889,102)

Regarding Claim 9.

Modified Worschech '069 discloses the limitations set forth above which are incorporated herein. Worschech also discloses the particularly suitable as mixed esters

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are those based on pentaerythrite and stearic acid. (C4 L19-20) (C6 L7 discloses dipentaerythrite)

Modified Worschech '069 does not expressly disclose the lubricant combinations wherein component (b) comprises pentaerythritol tetrastearate.

Haack discloses that pentaerythritol tetrastearate is a known lubricant for use in combination with other lubricants for use with plastics. (C1 L30-50)

It would have been obvious to a person having ordinary skill in the art at the time of invention to use the pentaerythritol tetrastearate of Haack as a lubricant component in Modified Worschech '069 as Haack discloses said lubricant is suitable for use in lubricant mixtures for use with plastics and Modified Worschech '069 already contemplates lubricant components of dipentaerythritol and stearic acid.

7. Claim 10 is rejected under 35 U.S.C. 103(a) as being unpatentable over Worschech et al. (US 3,875,069) (referred to as '069) in view of Worschech et al. (4,637,887) (referred to as '887) as applied to claim 1 above, and further in view of Dohi et al. (US 2004/0014861A1)

Regarding Claim 10.

Modified Worschech '069 discloses the limitations set forth above which are incorporated herein. Worschech also discloses the particularly suitable as mixed esters are those based on pentaerythrite and stearic acid. (C4 L19-20) (C6 L7 discloses dipentaerythrite)

Modified Worschech '069 does not expressly disclose the lubricant combinations wherein component (b) comprises dipentaerythritol hexastearate.



Dohi et al. discloses a material useful in the molding of polycarbonate material which uses dipentaerythritol hexastearate.

It would have been obvious to a person having ordinary skill in the art at the time of invention to use the dipentaerythritol hexastearate of Dohi et al. within the lubricant component in Modified Worschech '069 as Dohi et al. discloses said composition is suitable for use with plastics and Modified Worschech '069 already contemplates lubricant components of dipentaerythritol and stearic acid.

8. Claims 7 and 11-13 are rejected under 35 U.S.C. 103(a) as being unpatentable over Worschech et al. (US 3,875,069) (referred to as '069) in view of Worschech et al. (4,637,887) (referred to as '887) as applied to claims 1 and 6 above, in view of Dohi et al. (US 2004/0014861A1) as applied to claim 10, in view of Haack et al. (US 5,889,102) as applied to claim 9 and further in view of Lindner (US 6,818,689)

Regarding Claims 7 and 11-13

Modified Worschech '069 discloses the limitations set forth above which are incorporated herein. Worschech also discloses the lubricant may comprise stearic acid as the long chained aliphatic monocarboxylic acid lubricant component. (C6 L13) Worschech also discloses the use of natural fats (C6 L23) and esters of tallow fatty alcohol (C8 L22-24).

Modified Worschech '069 does not expressly disclose component (b) as comprising stearyl stearate or wherein the hydrogenated tallow is present as the natural fat and oil.

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Lindner discloses a lubricant composition for use in the processing of polyvinylchloride comprising an ester of a monofunctional organic acid and a monohydric alcohol wherein the ester is stearyl stearate. (C3 L38-44) Lindner also discloses the use of hydrogenated triglycerides as co lubricants (C4 L42-46) such as hydrogenated tallow (C5 Table I L10)

It would have been obvious to a person having ordinary skill in the art at the time of invention to try to use the stearyl stearate and the hydrogenated tallow of Lindner in the lubricant composition of Worschech '069 as both are suitable for use with thermoplastics and are within the types of components already contemplated by Worschech '069. (I.e. stearic acid esters and esters of tallow fatty alcohol).

Regarding Claims 19:

Rejections to claims 1, 4 and 11- 13 are incorporated herein.

Modified Worschech '069 discloses the limitations set forth above which are incorporated herein.

Modified Worschech '069 discloses, the hydrogenated tallow as component (a) as set forth in rejections to claims 11-13 said rejections are expressly incorporated herein.

Modified Worschech also discloses the method for processing thermoplastics comprising the steps of incorporating into a thermoplastic polymer a lubricant composition comprising: (a) at least one natural fats or oils with iodine values below 10 and at least one lubricant different from the natural fat and/or oil of component (a) ('069 C3 L1-22 mixed esters) and processing the thermoplastic polymer, preferably polar

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plastics. (Worschech '069 C2 L30-34 wherein the composition is used in the shaping of thermoplastic material and C9 L25-50 wherein the materials are added to the thermoplastic materials and then the plastic is shaped in any known manner) and (Worschech '069 C2 L55-60 wherein the composition is incorporated in the thermoplastic material).

### ***Response to Arguments***

9. Applicant's arguments filed July 22, 2009 have been fully considered but they are not persuasive.

10. Applicant argues the natural fat or oil is not disclosed by the references. The primary reference '069 expressly contemplates that cottonseed oil may comprise component of the composition meeting the limitation for a natural oil. (C8 L42-44) '069 also indicates the natural fats and oils such as olive oil, rapeseed oil, coconut oil, palm oil, soybean oil, cottonseed oil and linseed oil are hydrogenated (C7 L37-45) '069 discloses cottonseed oil as a component (C8 L42-44). (Noting that in the applicant's specification p5 L26-P6 L10 indicates that cottonseed oil is a suitable natural fat or oil which may be hydrogenated to achieve the claimed iodine values).

11. Applicant appears to argue that because the natural oils disclosed in Worschech '887 are epoxidized for selective hydrogenation that they are no longer natural fats and oils. The reference '887 indicates that the epoxidized fat will undergo hydrogenation which will open the oxirane rings and add a hydrogen (C2 L9-15) to result in a specific hydrogenated product. Applicant expressly states that the fats and oils can occur naturally or may be obtained by hydrogenation of natural fats and oils (Spec P5 L18-25

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and dependent claims 11-13). The hydrogenated fats and oils of '887 are contemplated by the applicant's explanation/definition of fats and oils.

12. Applicant argues the '069 reference teaches away as it discloses a compound with an iodine value of 50. It is important to note that the only component which requires an iodine number in the claims is the natural fat or oil which is taken from the reference '889 which meets the claim limitations for iodine number. Nonetheless, '069 discusses the melting point is affected by the saturation of the component of the long chained monocarboxylic acid used and that the melting point may be varied depending on saturation and offers as an example of the affect of saturation on melting point a compound with an iodine number of 50 indicating low saturation. The reference teaches the melting point is a result effective variable affected by the degree of saturation. The reference goes on to further disclose a method of putting the lubricant combinations together as requiring that they both be liquid or that the both be solid. By disclosing the factor which affects the melting point, the best mode of putting together the components has been disclosed. This does not teach away from the claimed invention which does not require a melting point, does not state whether the compound is meant to be solid or liquid, etc, at what temperature the components are blended in the method to incorporate the composition into a thermopolymer. Since the compound used as the natural oil from '887 is saturated, it will have a low iodine number as expressly set forth therein.

13. Applicant argues the '887 reference teaches away from the invention because it discloses the hydrogenated fat/oil may be used as a substitute for hardened castor oil

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while the applicant uses it for a substitute for esters of phthalic acid (which the examiner notes would likely be solid at room temperature). This argument exceeds the scope of the claim which merely requires the presence of two components. The intended use of the composition does not does not confer patentability to the claim since the recitation of an intended use does not impart patentability to otherwise old compounds or compositions. *In re Tuominen*, 671 F.2d 1359, 213 USPQ 89 (CCPA 1982).

### ***Conclusion***

14. Any inquiry concerning this communication or earlier communications from the examiner should be directed to PAMELA WEISS whose telephone number is (571)270-7057. The examiner can normally be reached on Mon.-Thur. 8:00am-6:30pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Glenn A. Caldarola can be reached on (571) 272-1444. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/pw/

/Glenn A Caldarola/  
Acting SPE of Art Unit 1797